comprising a bioluminescent or chemiluminescent polypeptide and a second domain comprising an RGD motif-comprising polypeptide, and the formulation is suitable for administration as an imaging enhancing agent and the chimeric molecule is present is an amount sufficient to enhance a computer assisted tomography (CAT) image, a magnetic resonance spectroscopy (MRS) image, a magnetic resonance imaging (MRI) image, a positron emission tomography (PET) image, a single-photon emission computed tomography (SPECT) image or a bioluminescence image (BLI);

(b) providing an imaging device;

(c) administering the pharmaceutical formulation in an amount sufficient to generate the cell, tissue or body image; and,

(d) imaging the distribution of the pharmaceutical formulation of step (a) with the imaging device, thereby imaging the cell, tissue or body.

72. (NEW) A method for *in vivo* imaging a tumor neovasculature in an individual comprising the following steps:

(a) providing a pharmaceutical formulation comprising a chimeric molecule and a pharmaceutically acceptable excipient, wherein the chimeric molecule comprises a first domain comprising a bioluminescent or chemiluminescent polypeptide and a second domain comprising an RGD motif-comprising polypeptide, and the formulation is suitable for administration as an imaging enhancing agent and the chimeric molecule is present is an amount sufficient to enhance a computer assisted tomography (CAT) image, a magnetic resonance spectroscopy (MRS) image, a magnetic resonance imaging (MRI) image, a positron emission tomography (PET) image, a single-photon emission computed tomography (SPECT) image or a bioluminescence image (BLI);

(b) providing an imaging device;

(c) administering the pharmaceutical formulation in an amount sufficient to image the tumor neovasculature; and,

(d) imaging the distribution of the pharmaceutical formulation of step (a) with the imaging device, thereby imaging the tumor neovasculature.

73. (NEW) A method for *in situ* or *in vivo* imaging of a cell, a tissue, an organ or a full body comprising administration of a pharmaceutical formulation in an amount sufficient to enhance the image, wherein the pharmaceutical formulation comprises a chimeric molecule and a pharmaceutically acceptable excipient, wherein the chimeric molecule comprises a first domain comprising a bioluminescence imaging polypeptide and a second domain comprising an RGD motif-comprising polypeptide, and the formulation is suitable for administration as an imaging enhancing agent and the chimeric molecule is present is an amount sufficient to enhance a bioluminescence image (BLI).

74. (NEW) A method for *in situ* or *in vivo* imaging of a cell, a tissue, an organ or a full body comprising the following steps:

(a) providing a pharmaceutical formulation comprising a chimeric molecule and a pharmaceutically acceptable excipient, wherein the chimeric molecule comprises a first domain comprising a bioluminescence imaging polypeptide and a second domain comprising an RGD motif-comprising polypeptide, and the formulation is suitable for administration as an imaging enhancing agent;

(b) providing an imaging device;

(c) administering the pharmaceutical formulation in an amount sufficient to generate the cell, tissue or body image; and,

(d) imaging the distribution of the pharmaceutical formulation of step (a) with the imaging device, thereby imaging the cell, tissue or body.

75. (NEW) The method of claim 70, claim 71, claim 72, claim 73 or claim 74, wherein the RGD motif-comprising polypeptide comprises a sequence as set forth in SEQ ID NO:1.

In the drawings:

Please substitute the originally filed Figures 1 and 2 with the enclosed Figures 1 and 2.